

# Glossary

AASHTO	American Association of State Highway and Transportation Officials – a nonprofit, nonpartisan association representing highway and transportation departments in the 50 states, the District of Columbia and Puerto Rico.
ACE	Alameda Corridor East – a 35-mile corridor extending through the San Gabriel Valley between East Los Angeles and Pomona and connecting the Alameda Corridor to the transcontinental railroad network.
ADA	Americans with Disabilities Act of 1990 – guarantees equal opportunity for individuals with disabilities in public accommodations, employment, transportation, State and local government services, and telecommunications. It prescribes federal transportation requirements for transportation providers.
Antelope Valley AQMD	Antelope Valley Air Quality Management District – the air pollution control agency for the portion of Los Angeles County north of the San Gabriel Mountains.
AQMP	Air Quality Management Plan – regional plan for air quality improvement in compliance with federal and State requirements.
ATIS	Advanced Traveler Information Systems – technology used to provide travelers with information, both pre-trip and in-vehicle, so they can better utilize the transportation system.
ATMS	Advanced Transportation Management Systems – technology used to improve the operations of the transportation network.
AVO	Average Vehicle Occupancy – calculated by dividing the total number of travelers by the total number of vehicles.
Base Year	The year 2000, used in the RTP performance analysis as a reference point for current conditions.
Baseline	Future scenario in which only projects in the 2002 RTIP that have federal environmental clearance by December 2002 are assumed to be completed. The Baseline functions as the “No-Project” alternative used in the RTP Program EIR.
BLS	Bureau of Labor Statistics – the principal fact-finding agency for the federal government in the broad field of labor economics and statistics.
BNSF	Burlington Northern and Santa Fe Railway Company.
Bus Rapid Transit	Bus transit service that seeks to reduce travel time through measures such as traffic signal priority, automatic vehicle location, dedicated bus lanes, limited-stop service, and faster fare collection policies.
CAA	Clean Air Act (CAA) – 1970 federal act that authorized EPA to establish air quality standards to limit levels of pollutants in the air. EPA has promulgated such standards (or NAAQS) for six criteria pollutants: sulfur dioxide (SO <sub>2</sub> ), nitrogen dioxide (NO <sub>2</sub> ), carbon monoxide (CO), ozone, lead, and particulate matter (PM <sub>10</sub> ). All areas of the United States must maintain ambient levels of these pollutants below the ceilings established by the NAAQS; any area that does not meet these standards is a “nonattainment” area. States must develop SIPs to explain how they will comply with the CAA. The act was amended in 1977 and again in 1990.

Caltrans	California Department of Transportation – State agency responsible for the design, construction, maintenance, and operation of the California State Highway System, as well as that portion of the Interstate Highway System within the State's boundaries.
CARB	California Air Resources Board – State agency responsible for attaining and maintaining healthy air quality through setting and enforcing emissions standards, conducting research, monitoring air quality, providing education and outreach, and overseeing/assisting local air quality districts.
Catalytic demand	Additional aviation demand that is created by companies that locate in the proximity of expanding airports with developable land around them, to reduce airport ground access time and costs for their employees and clients. Catalytic demand is greatest for large hub airports, particularly international airports.
CEQA	California Environmental Quality Act – State law providing certain environmental protections that apply to all transportation projects funded with State funds.
CETAP	Community Environmental and Transportation Acceptability Process – part of the Riverside County Integrated Project that is examining where to locate possible major new multi-modal transportation facilities to serve the current and future transportation needs of Western Riverside County, while minimizing impacts on communities and the environment.
CMAQ	Congestion Mitigation and Air Quality Program – federal program initiated by ISTEA to provide funding for surface transportation and other related projects that contribute to air quality improvements and reduce congestion.
CMS	Congestion Management System (also the federal reference to California Congestion Management Program) – a program to reduce congestion on regional streets and roads using travel demand reduction and operational management strategies.
CO	Carbon monoxide – a colorless, odorless, poisonous gas formed when carbon in fuels is not burned completely. It is a byproduct of highway vehicle exhaust, which contributes about 60 percent of all CO emissions nationwide.
COG	Council of Governments – under State law, a single or multi-county council created by a joint powers agreement.
COMPASS / Growth Visioning	A planning process guided by input from the public and initiated by SCAG to develop a regional strategy for addressing future growth in Southern California.
Congestion pricing	User fee imposed on vehicles during peak demand periods on congested roadways.
Constant dollars	Dollars expended/received in a specific year adjusted for inflation/deflation relative to another time period.
Corridor	In planning, a broad geographical band that follows a general directional flow or connects major sources of trips. It may contain a number of streets and highways, and transit lines and routes.

CTC	California Transportation Commission – a nine-member board appointed by the governor to oversee and administer State and federal transportation funds and provide oversight on project delivery.
CTIPS	California Transportation Improvement Program System – a project programming database system used to efficiently and effectively develop and manage various transportation programming documents as required under State and federal law.
Current dollars	Actual dollars expended/received in a specific year without adjustments for inflation/deflation.
CVO	Commercial Vehicle Operations – management of commercial vehicle activities through ITS.
Deficiency Plan	Set of provisions contained in a Congestion Management Plan to address congestion, when unacceptable levels of congestion occur. Projects implemented through the Deficiency Plan must, by statute, have both mobility and air quality benefits.
DTIM	Direct Travel Impact Model – a vehicle emissions forecasting model.
EDF	Environmental Defense Fund – a national nonprofit organization that seeks to protect the environmental rights of all people, including future generations.
EIR	Environmental Impact Report – an informational document, required under CEQA, which will inform public agency decision-makers and the public generally of: the significant environmental effects of a project, possible ways to minimize significant effects, and reasonable alternatives to the project.
EMFAC	Emission Factor – model that estimates on-road motor vehicle emission rates for current year as well as back-casted and forecasted inventories.
EPA	Environmental Protection Agency – federal agency established to develop and enforce regulations that implement environmental laws enacted by Congress to protect human health and safeguard the natural environment.
FAA	Federal Aviation Administration – federal agency responsible for issuing and enforcing safety regulations and minimum standards, managing air space and air traffic, and building and maintaining air navigation facilities.
FHWA	Federal Highway Administration – federal agency responsible for administering the Federal-Aid Highway Program, which provides federal financial assistance to the states to construct and improve the National Highway System, urban and rural roads, and bridges.
Financially constrained	Expenditures are said to be financially constrained if they are within limits of anticipated revenues.
FRA	Federal Railroad Administration – federal agency created to promulgate and enforce rail safety regulations, administer railroad assistance programs, conduct research and development in support of improved railroad safety and national rail transportation policy, and consolidate government support of rail transportation activities.

FTA	Federal Transit Administration – the federal agency responsible for administering federal transit funds and assisting in the planning and establishment of areawide urban mass transportation systems. As opposed to FHWA funding, most FTA funds are allocated directly to local agencies, rather than Caltrans.
FTIP	Federal Transportation Improvement Program – a three-year list of all transportation projects proposed for federal transportation funding within the planning area of an MPO. (Note: The FTIP is locally referred to as the 2002 RTIP.)
FY	Fiscal Year – period of time beginning July 1 and ending the following June 30.
GARVEE	Grant Anticipation Revenue Vehicles – a debt financing instrument authorized to receive federal reimbursement of debt service and related financing costs under Section 122 of Title 23, United States Code. GARVEEs can be issued by a state, a political subdivision of a state, or a public authority.
GIS	Geographic Information System – powerful mapping software that links information about where things are with information about what things are like. GIS allows users to examine relationships between features distributed unevenly over space, seeking patterns that may not be apparent without using advanced techniques of query, selection, analysis, and display.
GNP	Gross National Product – an estimate of the total value of goods and services produced in any specified country in a given year. GNP can be measured as a total amount or an amount per capita.
Grade crossing	A crossing or intersection of highways, railroad tracks, other guideways, or pedestrian walks, or combinations of these at the same level or grade.
HDT	Heavy Duty Truck – truck with a gross vehicle weight of 8,500 pounds or more.
Home-based work trips	Trips that go between home and work, either directly or with an intermediate stop. Home-based work trips include telecommuting, working at home and non-motorized transportation work trips.
HOT Lane	High Occupancy Toll Lane – an HOV lane that single-occupant drivers can pay to drive in.
HOV Lane	High Occupancy Vehicle Lane – a lane restricted to vehicles with two (and in some cases three) or more occupants to encourage carpooling. Vehicles include automobiles, vans, buses and taxis.
HPMS	Highway Performance Monitoring System – a federally mandated program designed by FHWA to assess the performance of the nation's highway system.
HUD	U.S. Department of Housing and Urban Development – federal agency charged with increasing homeownership, supporting community development, and increasing access to affordable housing free from discrimination.
ICAPCD	Imperial County Air Pollution Control District – local air agency mandated by State and federal regulations to implement and enforce air pollution rules and regulations.

Infrastructure	The basic facilities, equipment, services and installations needed for the growth and functioning of a community.
IOS	Initial Operating Segment.
ISTEA	Intermodal Surface Transportation Efficiency Act – signed into federal law on December 18, 1991, it provided authorization for highways, highway safety and mass transportation for FYs 1991–1997 and served as the legislative vehicle for defining federal surface transportation policy.
ITIP	Interregional Transportation Improvement Program - the portion of the STIP that includes projects selected by Caltrans (25 percent of STIP funds).
ITS	Intelligent Transportation Systems – systems that use modern detection, communications and computing technology to collect data on system operations and performance, communicate that information to system managers and users, and use that information to manage and adjust the transportation system to respond to changing operating conditions, congestion or accidents. ITS technology can be applied to arterials, freeways, transit, trucks and private vehicles. ITS include Advanced Traveler Information Systems (ATIS), Advanced Public Transit Systems (APTS), Advanced Traffic Management Systems (ATMS), Advanced Vehicle Control Systems (AVCS) and Commercial Vehicle Operations (CVO).
IVAG	Imperial Valley Association of Governments – Council of Governments for Imperial County. IVAG is responsible for short-range transportation planning, including all projects utilizing federal and State highway and transit funds.
JPA	Joint Powers Authority – two or more agencies that enter into a cooperative agreement to jointly wield powers that are common to them. JPAs are a vehicle for the cooperative use of existing governmental powers to finance and provide infrastructure and/or services in a cost-efficient manner.
LACMTA	Los Angeles County Metropolitan Transportation Authority, more commonly referred to as the MTA – agency responsible for planning and funding countywide transportation improvements, administering the county's transportation sales tax revenues, and operating bus and rail transit service.
LAUPT	Los Angeles Union Passenger Terminal, also known as Union Station.
LAWA	Los Angeles World Airports – aviation authority of the City of Los Angeles. LAWA owns and operates Los Angeles International (LAX), Ontario International, Van Nuys, and Palmdale airports.
LCVs	Longer-Combination Vehicles – includes tractor-trailer combinations with two or more trailers that weigh more than 80,000 pounds.
LEM	Location Efficient Mortgage – allows people to qualify for larger loan amounts if they choose a home in a densely populated community that is well-served by public transit, and where destinations are located close together so that they can also walk and bike instead of driving everywhere.

Livable Communities	Communities that are pedestrian- and transit-friendly environments, achieved through local government building and design standards and private builders' implementation.
LTF	Local Transportation Fund – fund which receives TDA revenues.
MAGLEV	Magnetic Levitation high-speed transportation system.
MAP	Million Annual Passengers – used to quantify airport activity.
Market incentives	Measures designed to encourage certain actions or behaviors. These include inducements for the use of carpools, buses and other HOVs in place of single-occupant automobile travel. Examples include HOV lanes, preferential parking, and financial incentives.
MDAB	Mojave Desert Air Basin – area defined by State law as comprising the desert portions of Los Angeles, Kern, Riverside, and San Bernardino Counties.
MDAQMD	Mojave Desert Air Quality Management District – local air agency mandated by State and federal regulations to implement and enforce air pollution rules and regulations; encompasses the desert portion of San Bernardino County from the summit of the Cajon Pass north to the Inyo County Line, as well as the Palo Verde Valley portion of Riverside County.
Measure A	Revenues generated from Riverside County's local half-cent sales tax.
Measure I	Revenues generated from San Bernardino County's local half-cent sales tax.
Metrolink	Regional commuter rail system connecting Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties and operated by SCRRA.
MIS	Major Investment Study – the preliminary study, including preliminary environmental documentation, for choosing alternative transportation projects for federal transportation funding. An MIS is a requirement, which is conducted cooperatively by the study sponsor and the MPO.
Mixed flow	Traffic movement having autos, trucks, buses and motorcycles sharing traffic lanes.
Mode	A particular form of travel (e.g., walking, traveling by automobile, traveling by bus or traveling by train).
Mode split	The proportion of total person trips using various specified modes of transportation.
Model	A mathematical description of a real-life situation that uses data on past and present conditions to make a projection.
MPO	Metropolitan Planning Organization – A federally required planning body responsible for transportation planning and project selection in a region.

MTS	Metropolitan Transportation System – regional network of roadways and transit corridors.
Multi-modal	A mixture of the several modes of transportation, such as transit, highways, non-motorized, etc.
NAAQS	National Ambient Air Quality Standards – targets established by the U.S. Environmental Protection Agency (EPA) for the maximum contribution of a specific pollutant in the air.
NAFTA	North American Free Trade Agreement – agreement between the governments of Canada, Mexico, and the United States to eliminate barriers to trade and facilitate the cross-border movement of goods and services.
NEPA	National Environmental Protection Act – federal environmental law that applies to all projects funded with federal funds or requiring review by a federal agency.
NOx	Nitrogen oxides – a group of highly reactive gases, all of which contain nitrogen and oxygen in varying amounts. NOx is a major component of ozone and smog, and is one of six principal air pollutants tracked by the EPA.
OCTA	Orange County Transportation Authority – agency responsible for planning and funding countywide transportation improvements, administering the county's transportation sales tax revenues, and operating bus transit service.
OnTrac	Orange-North America Trade Rail Access Corridor – formed in April of 2000 to build and support the Orangethorpe Avenue Grade Separation and Trade Corridor project, a 5-mile-long railroad-lowering project that will completely grade separate 11 rail crossings in the cities of Placentia and Anaheim.
OWP	Overall Work Program – SCAG develops an OWP annually, describing proposed transportation planning activities for the upcoming fiscal year, including those required by federal and State law.
PRC	Peer Review Committee – an “informal” committee of technical experts usually organized and invited to review and comment on various technical issues and processes used in the planning process.
PeMS	Freeway Performance Measurement System – a service provided by the University of California, Berkeley, to collect historical and real-time freeway data from freeways in the State of California in order to compute freeway performance measures.
Person trip	A trip made by a person by any mode or combination of modes for any purpose.
PILUT	Planning for Integrated Land-Use and Transportation – planning process initiated by SCAG to integrate the tasks related to RTP and PEIR development and COMPASS/Growth Visioning.
PM <sub>10</sub>	Particulate Matter – a mixture of solid particles and liquid droplets found in the air, 10 micrometers or less in size (a micrometer is one-millionth of a meter). These coarse particles are generally emitted from sources such as vehicles traveling on unpaved roads, materials handling, and crushing and grinding operations, as well as windblown dust.

PM <sub>2.5</sub>	Particulate Matter – a mixture of solid particles and liquid droplets found in the air, 2.5 micrometers or less in size (a micrometer is one-millionth of a meter). These fine particles result from fuel combustion from motor vehicles, power generation, and industrial facilities, as well as from residential fireplaces and wood stoves.
Proposition 42	As of March 2002, placed in the State Constitution those provisions of current law requiring the use of State gasoline sales tax revenues for State and local transportation purposes.
Proposition A	Revenues generated from Los Angeles County's local half-cent sales tax. Los Angeles County has two permanent local sales taxes (Propositions C and A).
Proposition C	Revenues generated from Los Angeles County's local half-cent sales tax. Los Angeles County has two permanent local sales taxes (Propositions C and A).
PSR	Project Study Report – defines and justifies the project's scope, cost, and schedule. PSRs are prepared for State highway projects and PSR equivalents are prepared for projects not on the State highway system. Under State law, a PSR or PSR equivalent is required for STIP programming.
PTA	Public Transportation Account – the major State transportation account for mass transportation purposes. Revenues include a portion of the sales tax on gasoline and diesel fuels.
PUC	Public Utilities Commission – regulates privately owned telecommunications, electric, natural gas, water, railroad, rail transit, and passenger transportation companies.
Railroad siding	A short stretch of railroad track used to store rolling stock or enable trains on the same line to pass; also called sidetrack.
RCTC	Riverside County Transportation Commission – agency responsible for planning and funding countywide transportation improvements and administering the county's transportation sales tax revenues.
Robust flight portfolio	Providing a range of flight offerings in different haul length categories including short-haul, medium-haul, long-haul and international flights.
RTIP	Regional Transportation Improvement Program – refers to the share of capital outlay improvement funds controlled by regional agencies (75 percent of STIP funds). (Note: The FTIP is locally referred to as the 2002 RTIP.)
RTP	Regional Transportation Plan (RTP) – federally required 20-year plan prepared by metropolitan planning organizations and updated every three years. Includes projections of population growth and travel demand, along with a specific list of proposed projects to be funded.
RHNA	Regional Housing Needs Assessment – quantifies the need for housing within each jurisdiction of the SCAG Region based on population growth projections. Communities then address this need through the process of completing the housing elements of their general plans.
ROG	Reactive organic gas – organic compounds assumed to be reactive at urban/regional scales. Those organic compounds that are regulated because they lead to ozone formation.



RSTIS	Regionally Significant Transportation Investment Study -- involves identifying all reasonable transportation options, their costs, and their environmental impacts. RSTIS projects are generally highway or transit improvements that have a significant impact on the capacity, traffic flow, level of service or mode share at the transportation corridor or sub-area level.
RSTP	Regional Surface Transportation Program – established by the California State Statute utilizing federal Surface Transportation Program funds. Approximately 76 percent of the State's RSTP funds must be obligated on projects located within the 11 urbanized areas of California with populations of 200,000 or more.
RTMS	Regional Transportation Monitoring System – internet-based transportation monitoring system. The RTMS will be the source for real-time and historical transportation data collected from local, regional and private data sources.
SAFETEA	Safe, Accountable, Flexible, and Efficient Transportation Equity Act of 2003 – Bush administration's proposal for the six-year federal transportation reauthorization program (2004–2009).
SANBAG	San Bernardino Associated Governments –SANBAG is the council of governments and transportation planning agency for San Bernardino County. SANBAG is responsible for cooperative regional planning and developing an efficient multi-modal transportation system countywide.
SANDAG	San Diego Association of Governments
SB45	Senate Bill 45 (Chapter 622, Statutes of 1997, Kopp) – established the current STIP process and shifted control of decision-making from the State to the regional level.
SCAB	South Coast Air Basin – comprises the non-Antelope Valley portion of Los Angeles County, Orange County, Riverside County, and the non-desert portion of San Bernardino County.
SCAG	Southern California Association of Governments – the metropolitan planning organization (MPO) for six counties including Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial.
SCAQMD	South Coast Air Quality Management District – the air pollution control agency for Orange County and major portions of Los Angeles, San Bernardino and Riverside Counties in Southern California.
SCCAB	South Central Coast Air Basin – comprises San Luis Obispo, Santa Barbara, and Ventura Counties.
SCRIFA	Southern California Railroad Infrastructure Financing Authority.

SCRRRA	Southern California Regional Rail Authority – formed in August 1991, the SCRRRA plans, designs, constructs and administers the operation of regional passenger rail lines (Metrolink) serving the counties of Los Angeles, Orange, Riverside, San Bernardino and Ventura.
SED	Socioeconomic Data – population, employment and housing forecast.
SHA	State Highway Account – the major State transportation account for highway purposes. Revenues include the State excise taxes on gasoline and diesel fuel and truck weight fees.
SHOPP	State Highway Operation and Protection Program – a four-year capital improvement program for rehabilitation, safety, and operational improvements on state highways.
SIP	State Implementation Plan - State air quality plan to ensure compliance with State and federal air quality standards. In order to be eligible for federal funding, projects must demonstrate conformity with the SIP.
SO <sub>x</sub>	Sulfur Oxide – any of several compounds of sulfur and oxygen, formed from burning fuels such as coal and oil.
SSAB	Salton Sea Air Basin – comprises the Coachella Valley portion of Riverside County and all of Imperial County.
STA	State Transit Assistance – State funding program for mass transit operations and capital projects. Current law requires that STA receive 50 percent of PTA revenues.
STIP	State Transportation Improvement Program – a four-year capital outlay plan that includes the cost and schedule estimates for all transportation projects funded with any amount of State funds. The STIP is approved and adopted by the CTC and is the combined result of the ITIP and the RTIP.
STP	Surface Transportation Program – provides flexible funding that may be used by states and localities for projects on any federal-aid highway, bridge projects on any public road, transit capital projects, and intracity and intercity bus terminals and facilities. A portion of funds reserved for rural areas may be spent on rural minor collectors.
TANN	Traveler Advisory News Network – provides real-time traffic and transportation information content to communications service providers and consumer media channels both nationally and internationally.
TAZ	Traffic Analysis Zone – zone system used in travel demand forecasting.
TCM	Transportation Control Measure – a project or program that is designed to reduce emissions or concentrations of air pollutants from transportation sources. TCMs are referenced in the State Implementation Plan (SIP) for the applicable air basin and have priority for programming and implementation ahead of non-TCMs.

TCRP	Traffic Congestion Relief Program – enacted by State legislation in 2000 to provide additional funding for transportation over a six-year period (later extended to eight years). The program is funded by a combination of General Fund revenues (one-time) and ongoing revenues from the State sales tax on gasoline. In March 2002 voters passed Proposition 42, which permanently dedicated gasoline sales tax revenues to transportation purposes.
TDA	Transportation Development Act – State law enacted in 1971 that provided a 0.25 percent sales tax on all retail sales in each county for transit, bicycle, and pedestrian purposes. In non-urban areas, funds may be used for streets and roads under certain conditions.
TDM	Transportation Demand Management – strategies that result in more efficient use of transportation resources, such as ridesharing, telecommuting, park and ride programs, pedestrian improvements, and alternative work schedules.
TEA-21	Transportation Equity Act for the 21 <sup>st</sup> Century – signed into federal law on June 9, 1998, TEA-21 authorizes the federal surface transportation programs for highways, highway safety, and transit for the six-year period 1998–2003. TEA-21 builds upon the initiatives established in ISTEA.
TEU	Twenty-feet Equivalent Unit.
Tier 2	The set of 2002 RTIP projects that is not included in the Baseline scenario. Tier 2 projects are recognized as committed projects and the RTP gives them first-funding priority after the Baseline.
TIFIA	Transportation Infrastructure Finance and Innovation Act of 1998 – established a new federal credit program under which the USDOT may provide three forms of credit assistance—secured (direct) loans, loan guarantees, and standby lines of credit—for surface transportation projects of national or regional significance. The program's fundamental goal is to leverage federal funds by attracting substantial private and other non-federal co-investment in critical improvements to the nation's surface transportation system. Sponsors may include state departments of transportation, transit operators, special authorities, local governments, and private entities.
TOD	Transit-Oriented Development – a land-use planning tool that promotes pedestrian-friendly environments and supports transit use and ridership. TOD focuses on high-density housing and commercial land-uses around bus and rail stations.
TP & D	Transportation Planning and Development Account – a State transit trust fund that is the funding source for the STA program.
Transit-dependent	Individual(s) dependent on public transit to meet private mobility needs (e.g., unable to drive, not a car owner, not licensed to drive, etc.).
Trantrak	RTIP database management system.
TUMF	Transportation Uniform Mitigation Fee – ordinance enacted by the Riverside County Board of Supervisors and cities to impose a fee on new development to fund related transportation improvements.
UP	Union Pacific Railroad.

USDOT	U.S. Department of Transportation – federal agency responsible for the development of transportation policies and programs that contribute to providing fast, safe, efficient, and convenient transportation at the lowest cost consistent with those and other national objectives, including the efficient use and conservation of the resources of the United States. USDOT is comprised of ten operating administrations, including FHWA, FTA, FAA, and FRA.
VCTC	Ventura County Transportation Commission – agency responsible for planning and funding countywide transportation improvements.
Vehicle Hours of Delay	The travel time spent on the highway due to congestion. Delay is estimated as the difference between vehicle hours traveled at a specified free flow speed and vehicle hours traveled at a congested speed.
Vehicle trip	The one-way movement of a vehicle between two points.
VMT	Vehicle Miles Traveled – on highways, a measurement of the total miles traveled by all vehicles in the area for a specified time period. It is calculated by the number of vehicles times the miles traveled in a given area or on a given highway during the time period. In transit, the number of vehicle miles operated on a given route or line or network during a specified time period.
VOC	Volatile Organic Compounds – organic gases emitted from a variety of sources, including motor vehicles, chemical plants, refineries, factories, consumer and commercial products, and other industrial sources. Ozone, the main component of smog, is formed from the reaction of VOCs and NO <sub>x</sub> in the presence of heat and sunlight.

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